SCREENING SITE INSPECTION REPORT

FOR

COOPER SCHOOL SITE

WESTLAND, MICHIGAN

U.S. EPA ID: MID981189905

September 11, 1990

SIGNATURE PAGE

FOR

SCREENING SITE INSPECTION REPORT

FOR

COOPER SCHOOL

WESTLAND, MICHIGAN

U.S. EPA ID: MID981189905

REPORT PREPARED BY: Cindy Fairbanks DATE: 9/27/90

Cindy Fairbanks

Bahram Zamani, Team Leader

Environmental Response Division

Michigan Department of Natural Resources

REVIEWED AND APPROVED By: George Carpenter DATE: 9/27/90

George Carpenter

CERCLA Pre-Remedial Coordinator

Michigan Department of Natural Resources

Prepared by: Cindy Fairbanks

Pre-Remedial Unit

Superfund Section

Environmental Response Division

Michigan Department of Natural Resources

P.O. Box 30028

Lansing, Michigan 48909

APPENDIX PAGE

FIGURE PAGE

LIST OF TABLES

1. INTRODUCTION

The Michigan Department of Natural Resources (MDNR) was contracted by the United States Environmental Protection Agency (U.S. EPA) to conduct a screening site inspection (SSI) of the Cooper School site.

The site was initially discovered to CERCLIS by the MDNR in 1988. The site was initially evaluated in the form of a preliminary assessment (PA) that was submitted to U.S. EPA. The PA was prepared by Ms. Debra Spakoff of the MDNR and dated April 8, 1988.

MDNR prepared a SSI work plan for the Cooper School site. The SSI work plan was approved by U.S. EPA on June 14, 1988. The SSI of the Cooper School site was conducted on March 23, 1989.

The SSI included an interview with a site representative, a reconnaissance inspection of the site, and the collection of nine soil samples.

The purposes of a SSI have been stated by U.S. EPA in a directive outlining Pre-Remedial Program strategies. The directive states:

> All sites will receive a screening SI to 1) collect additional data beyond the PA to enable a more refined preliminary Hazard Ranking System (HRS)

score, 2) establish priorities among sites most likely to qualify for the National Priorities List (NPL), and 3) identify the most critical data requirements for the listing SI step. A screening SI will not have rigorous data quality objectives (DQOs). Based on the refined preliminary HRS score and other technical judgement factors, the site will then either be designated as no further remedial action planned (NFRAP), or carried forward as a NPL listing candidate. A listing SI will not automatically be done on these sites, however. First, they will go through a management evaluation to determine whether they can be addressed by another authority such as the Resource Conservation and Recovery Act (RCRA). Sites that are designated NFRAP or deferred to other statutes are not candidates for a listing SI.

The listing SI will address all the data requirements of the revised HRS using field screening and NPL level DQOs. It may also provide needed data in a format to support remedial investigation work plan development. Only sites that appear to score high enough for listing and that have not been deferred to another authority will receive a listing SI (U.S.EPA 1988).

2. SITE BACKGROUND

2.1 Introduction

This section includes information obtained from SSI work plan preparation and the site representative interview.

2.2 Site Description

The Cooper School site was an active municipal waste landfill from approximately 1925 to 1952. According to the Wayne County Health Department records, the types and amounts of municipal waste deposited in the landfill are unknown.

The landfill, located on Cooper Elementary School property, is unfenced, and adjacent to a highly populated residential area and north of the Middle Rouge Parkway, a public park. The Rouge River, located approximately 800 feet from the site, flows through the park and lends itself to potential contamination to surface water should the landfill be leaking. A soil ridge lies betwen the landfill and the park with a storm sewer line in the depression adjacent to the fill and in the school yard. This reduces the chance of overland migration although the storm sewer may discharge into the river. Contaminated groundwater may also migrate to the river. No testing of water or soil has been conducted.

2.3 Site History

The Cooper School Site is located at 28611 Ann Arbor Trail in the City of Westland, Westland Township, Wayne County (see Figure 2-1). The site was an active municipal waste landfill from 1925 to 1952. The size of the landfill area is estimated to be five to ten acres. The Cooper Elementary School was built on the area several years after the landfill was closed and covered with a vegetative cover. At present, the school is being utilized by the Livonia School District as a fully functioning elementary school.

Figure 2-1 2-3 USGS Wayne, Michigan Quad 1967

3. SCREENING SITE INSPECTION PROCEDURES AND FIELD OPERATIONS

3.1 Introduction

This section outlines procedures and observations of the SSI of the Cooper School site. Individual subsections address the site representative interview, reconnaissance inspection, and sampling procedures. Rationales for specific activities are also provided. The SSI was conducted in accordance with the U.S. EPA approved work plan.

The U.S. EPA Potential Hazardous Waste Site Inspection Report (Form 2070-13) for Cooper School is provided in Appendix B. The U.S. EPA Immediate Removal Action Checklist for the Cooper School site is provided in Appendix C.

3.2 Site Representative Interview

Mr. Bahram Zamani, team leader, conducted an interview with Ms. Doreen Reid, principal of the Cooper Elementary School at the site on March 23, 1989 at 9:30 a.m.

3.3 Reconnaissance Inspection

Following the site representative interview, the investigation team conducted a reconnaissance inspection of the Cooper School site and surrounding area in accordance with Michigan Department of Natural

Resources Health and Safety guidelines (MDNR,1988). The reconnaissance inspection included a walk-through of the site to determine appropriate health and safety requirements for conducting on-site activities and to make observations to aid in characterizing the site. The team also determined contaminated spots and other sampling locations during the reconnaissance inspection.

Reconnaissance Inspection Observations. The Cooper School site is located in the eastern portion of the City of Westland in a residential area. North of the site is the former Whitaker High School, now utilized as a senior citizen center, and the Maple Grove Cemetary. South of the school approximately 800 feet is the Middle River Rouge surrounded by the Middle Rouge Parkway.

The surface topography of the site is flat to the east with a higher elevated area on the west side of the building a remnant of the landfilled area. Ann Arbor Trail road borders the site to the north and Hines Drive which follows the river borders the site to the south. The site itself consists of the Cooper School Building, a paved parking lot and a playground to the west of the school. There is a storm sewer opening in the area south of the building surrounded by stressed grass and other plant life. The stress may be due to playground activity and periodic flooding around the storm sewer.

Due to camera malfunction, no site photographs of the area are available for this report.

3.4 Sampling Procedures

Samples were collected by the investigation team to determine levels of U. S. EPA Target Compound (TCL) compounds and Target Analyte List (TAL) analytes present at the site.

On March 23, 1989, MDNR collected nine soil samples including one potential background sample from suspected areas of contamination at the Cooper School site. Portions of all samples were offered to the site representative but were refused. (See Figure 3-1).

Soil Sampling Procedures. Soil Sample (SS1) was collected on-site at the eastern side of the Cooper School building at a depth of five inches. This was originally designated as the potential background sample until sampling discovered this location was an apparent continuation of the landfill. Soil Sample (SS2) was collected to the south of the Cooper School building at a depth of five inches near a storm sewer opening with stressed vegetation growing around it. Soil Sample 3 (SS3) was collected on the western side of the Cooper School building at a depth of two inches. Soil Sample 4 (SS4) through Soil Sample Seven (SS7) were collected around the perimeter of the landfill area mound at an average depth of one foot. Soil Sample 8 (SS8) was collected from on top of the elevated landfill mound at a depth of approximately six inches. Soil Sample 9 (SS9), the designated background sample, was collected from behind the Whittier Junior High building at a depth of eight inches in the middle of the school playground.

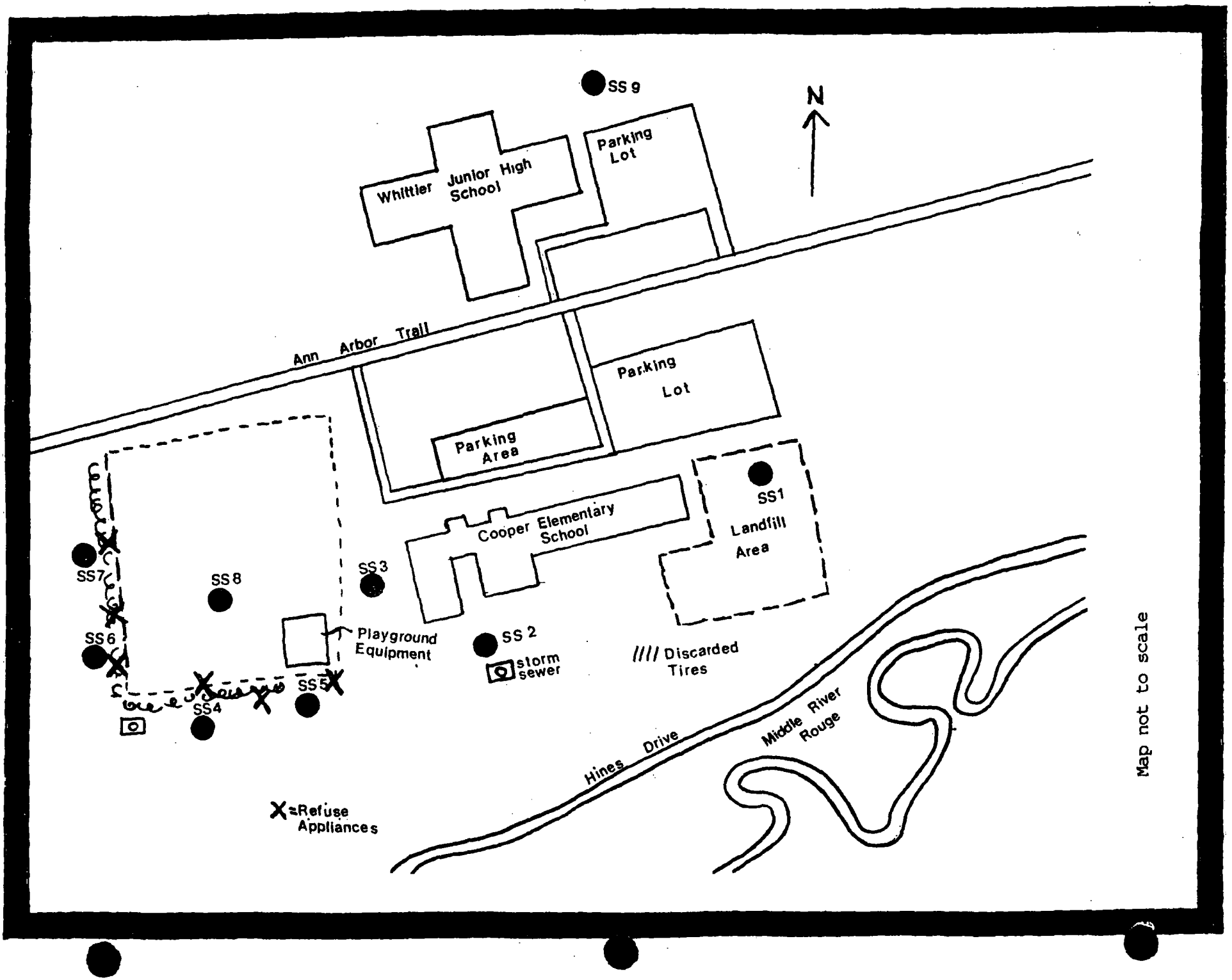

SS 9
N
Whittier Junior High School
Parking Lot
Ann Arbor Trail
Parking Lot
Parking Area
SS1
Landfill Area
Cooper Elementary School
SS7
SS8
SS3
SS6
Playground Equipment
SS 2
storm sewer
//// Discarded Tires
SS5
SS4
Hines Drive
Middle River Rouge
X=Refuse Appliances
Map not to scale

Figure 3-1

All soil samples were collected by digging to a depth of approximately 4 to 6 inches with a garden trowel. Soil was then transferred to an aluminum pan. After all visible debris was removed, the sample was homogenized and transferred to the sample containers using the trowel.

Standard MDNR decontamination procedures were adhered to during the collection of the soil samples (MDNR, 1988). The procedures included the scrubbing of all equipment (e.g., trowels) with a Tri sodium phosphate-distilled water solution and the rinsing of equipment with distilled water prior to the collection of each sample. All soil samples were packaged and shipped in accordance with U.S. EPA required procedures.

As directed by the U.S. EPA, all soil samples were analyzed for TCL compounds by S-Cubed of San Diego, California and for TAL analytes by Lauchs Testing Labs, Incorporated in Seattle, Washington.

4. ANALYTICAL RESULTS

4.1 Introduction

This section includes results of chemical analysis of soil samples for TCL compounds and TAL analytes.

4.2 Results of Chemical Analysis of Samples

Soil Samples. Analysis of soil samples revealed substances from the following groups of TCL compounds and TAL analytes: metals, pesticides and normal soil constituents. (See Table 4-1 for complete soil sample and chemical anaylsis).

Laboratory analytical data and Contract Laboratory Program (CLP) quantification/detection limits of soil samples analyses are provided in Appendix E.

Table 4-1

Results of Chemical Analysis
of Soil Samples

05/18/90

Sample Collection Information and Parameters	SS1	SS2	SS3	SS4	SS5	SS6	SS7	SS8	SS9 (Background)	SS10
Date Sampled:	03/23/89									
Organic Traffic Report#:	EZ279	EZ280	EZ281	EZ282	EZ283	EZ284	EZ285	EZ286	EZ287	
Inorganic Traffic Report#:	MED617	MED618	MED619	MED620	MED621	MED622	MED623	MED624	MED625	
Compounds Detected (organic values in ug/kg) (inorganic values in mg/kg)										
Organic/Inorganic:	INO									
CHEMICAL NAME										
LEAD	J99.8*	J48.9*	J32.0S*	J67.7*	J102*	J70.8*	J274*	J11.0*	J15.5S*	
ALUMINUM	13500	8720	13800	10700	11900	10800	9460	17200	9360	
ANTIMONY	J0.57BN	----	J0.30BN	----	J0.29BN	----	J0.67BN	----	J0.29BN	
ARSENIC	9.5S	5.1	6.2	4.4	6.2	6.0	4.4	6.4	3.8	
BARIUM	114	50.6	74.3	49.2	73.7	76.2	83.8	97.7	76.2	
BERILLIUM	----	----	----	----	----	----	0.33B	0.38B	----	
CADMIUM	0.74B	----	----	----	----	----	1.1	0.61B	----	
CALCIUM	24400	14800	26700	14100	17900	20400	38400	74000	2730	
CHROMIUM	24.6	12.9	21.0	23.4	22.5	21.3	18.1	24.7	12.0	
COBALT	8.2B	5.6B	9.3	4.6B	5.8B	4.4B	4.6B	11.2	13.2	
COPPER	J41.5N*	J11.7N*	J17.5N*	J13.0N*	J20.6N*	J22.8N*	J33.3N*	J16.7N*	J8.2N*	
IRON	23700	12900	20900	15100	17800	17100	14700	23800	12900	
MAGNESIUM	8790	3950	10100	4680	7030	6590	7870	20100	1840	
MANGANESE	J343EN*	J266EN*	J418EN*	J378EN*	J465EN*	J461EN*	J548EN*	J432EN*	J669EN*	
MERCURY	0.12	----	----	----	0.10	----	0.13	----	----	
NICKEL	29.9	17.2	19.4	13.9	15.5	18.4	13.3	30.1	12.0	
POTASSIUM	2190	1240	2380	1620	1550	1460	1620	3620	1110	
SELENIUM	----	----	----	----	----	----	J1.4BNW	----	----	
SODIUM	110B	J93.2B	106B	J74.8B	150B	205B	239B	677B	J59.8B	
THALLIUM	0.26B	----	0.28B	----	0.22B	0.20B	----	0.34B	----	
VANADIUM	29.0	20.8	34.6	28.7	31.0	28.3	20.3	40.9	21.5	
ZINC	J173N	J142N	J74.2N	J60.0N	J85.9N	J105N	J187N	J57.1N	J50.7N	

Data Qualifiers: B = Found in Blank & Sample (Organics); (-)= Value Not Detected; J = Estimated Value;
N = Spike outside QC Limits; S = Method of Standard Addition; * = Duplicate outside QC limits;
E = Value estimated or not reported due to presence of interference (Inorganics);
W = Post-digestion spike outside QC limits and sample absorbance < 50% spike absorbance;
E = Exceeds concentration range (Organics); Q = Estimated quantity;
+ = Correlation coefficient for Method of Standard Additions < 0.995;
B = Value >= instrument detection limit but < contract-required detection limit.

Table 4-1

Results of Chemical Analysis
of Soil Samples

05/18/90

Sample Collection Information and Parameters	SS1	SS2	SS3	SS4	SS5	SS6	SS7	SS8	SS9 (Background)	SS10
Date Sampled:03/23/89										
Organic Traffic Report#:	EZ279	EZ280	EZ281	EZ282	EZ283	EZ284	EZ285	EZ286	EZ287	
Inorganic Traffic Report#:	MED617	MED618	MED619	MED620	MED621	MED622	MED623	MED624	MED625	
Compounds Detected (organic values in ug/kg) (inorganic values in mg/kg)										
Organic/Inorganic:ORG										
CHEMICAL NAME										
4,4'-DDD	41	11J	----	19	36	59	31	----	----	
4,4'-DDE	25	33	6.4J	35	64	32	43	----	6.1J	
4,4'-DDT	38	----	----	190	280	70	120	----	----	
BENZO(A)ANTHRACENE	210J	----	----	430J	310J	450J	680J	----	----	
BENZO(A)PYRENE	220J	----	----	470J	340J	540J	770J	----	----	
BENZO(B)FLUORANTHENE	220J	----	----	430J	330J	520J	710J	----	----	
BENZO(G,H,I)PERYLENE	120J	----	----	280J	200J	310J	580J	----	----	
BENZO(K)FLUORANTHENE	200J	----	----	429J	310J	480J	820J	----	----	
CARBON DISULFIDE	----	2J	31	----	11	UJ3J	J15	5J	11	
CHLORDANE	----	----	----	110	53J	170	54J	----	----	
CHRYSENE	----	----	----	490J	370J	550J	800J	----	----	
DI-N-BUTYLPHTHALATE	----	----	----	----	----	----	390J	----	----	
FLUORANTHENE	430J	----	----	830	600J	880	1400	----	----	
INENO(1,2,3-CD)PYRENE	----	----	----	----	----	----	470J	----	----	
METHYLENE CHLORIDE	12	4J	26	13	10	J17	J20	10	18	
PHENANTHRENE	180J	----	----	380J	290J	410J	740J	----	----	
PYRENE	350J	----	----	700J	500J	750J	1200	----	----	
TOLUENE	----	----	3J	----	2J	----	----	----	5J	

Data Qualifiers: B = Found in Blank & Sample (Organics); (-)= Value Not Detected; J = Estimated Value;
N = Spike outside QC Limits; S = Method of Standard Addition; * = Duplicate outside QC limits;
E = Value estimated or not reported due to presence of interference (Inorganics);
W = Post-digestion spike outside QC limits and sample absorbance < 50% spike absorbance;
E = Exceeds concentration range (Organics); Q = Estimated quantity;
+ = Correlation coefficient for Method of Standard Additions < 0.995;
B = Value >= instrument detection limit but < contract-required detection limit.

-1-

DATA QUALIFIER DEFINITIONS

The following qualifiers are used by data validation personnel. The code letters are listed below with associated definitions.

INORGANIC

U - The material was analyzed for, but was not detected.

J - The associated numerical value is an estimated quantity because quality control criteria were not met.

R - Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis is necessary for verification.

Z - No analytical result.

UJ - Sample was analyzed, but not detected. The associated numeric value is an estimated quantity because quality control criteria were not met.

B - Found in blank.

ORGANIC

U - The material was analyzed for, but was not detected.

J - The associated numerical value is an estimated quantity.

R - The data are unusable (compound may or may not be present). Resampling and reanalysis is necessary for verification.

N - Presumptive evidence of presence of material.

NJ - Presumptive evidence of the presence of the material at an estimated quantity.

UJ - The material was analyzed for, but was not detected. The associated numeric value is an estimated quantity because quality control criteria were not met.

LABORATORY QUALIFIER DEFINITIONS

The following qualifiers are used by laboratories performing the analyses. The 7 qualifiers defined below are not subject to modification by the laboratory.

INORGANIC

[ ] - *If the result is a value greater than or equal to the instrument detection limit but less than the contract-required detection limit, report the value in brackets (i.e., [10]).

U - Indicates element was analyzed for but not detected. Report with the instrument detection limit value (e.g., 10U).

E - Indicates a value estimated or not reported due to the presence of interference. Explanatory note included on cover page.

S - Indicates value determined by Method of Standard Addition.

N - Indicates spike sample recovery is not within control limits.

* - Indicates duplicate analysis is not within control limits.

+ - Indicates the correlation coefficient for method of standard addition is less than 0.995.

M - Indicates duplicate injection results exceeded control limits.

W - Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.

METHOD QUALIFIER (Enter):

- "P" for ICP
- "A" for Flame AA
- "F" for Furnace AA
- "CV" for Manual Cold Vapor AA
- "AV" for Automated Cold Vapor AA
- "AS" for Semi-Automated Spectrophotometric
- "C" for Manual Spectrophotometric
- "T" for Titrimetric
- "NR" if the analyte is not required to be analyzed

* The [ ] symbol has been replaced in the new SOW with the symbol "B" for brackets.

LAB QUALIFIERS (cont'd)

ORGANICS

U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture. For example, 10U for phenol in water if the sample final volume is the protocol-specified final volume. If a 1 to 10 dilution of extract is necessary, the reported limit is 100 U. For a soil sample, the value must also be adjusted for percent moisture.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

C - This flag applies to pesticide results where the GC identification has been confirmed by GC/MS. Single component pesticides $\geq$ 10 ng/ul in the final extract shall be confirmed by GC/MS.

B - This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified TCL compound.

E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than full scale, the sample or extract must be diluted and re-analyzed according to the specifications in Exhibit D. All such compounds with a response greater than full scale should have the concentration flagged with an "E" on the Form I for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate Forms I. The Form I for the diluted sample shall have the "DL" suffix appended to the sample number.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and all concentration values reported on that Form I are flagged with the "D" flag.

LAB QUALIFIERS (cont'd)

ORGANICS (cont'd)

A - This flag indicates that a TIC is a suspected aldol-condensation product.

X - Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the Sample Data Summary Package and the Case Narrative. If more than one is required, use "Y" and "Z", as needed. If more than five qualifiers are required for a sample result, use the "X" flag to combine several flags, as needed. For instance, the "X" flag might combine the "A", "B", and "D" flags for some sample.

5. DISCUSSION OF MIGRATION PATHWAYS

5.1 Introduction

This section discusses data and information that apply to potential migration pathways and possible sources of contamination with TCL compounds and/or TAL analytes that may be attributable to the Cooper School site.

The five migration pathways of concern discussed are groundwater, surface water, air, direct contact, and fire and explosion.

5.2 Groundwater

Analysis of the on-site samples indicated TAL Analytes and TCL compounds have the potential to migrate into the soil and into the groundwater. TCL compounds 4,4'-DDD (41 ug/kg) and 4,4'-DDT (280 ug/kg) were detected in several soil samples collected near the school playground.

The geology of the area is glacial moraine approximately 70 to 100 feet thick overlying a thin water bearing aquifer of salty water which is unusable for drinking water. Some oil-bearing layers have been discovered in the glacial moraine deposits but none are considered as possible economic sources of oil and gas. The glacial till consists of layers of sand, gravel, and clay. There is an apparent continuous clay layer throughout the area overlying the nonpotable aquifer. Ground water flow is believed to be to the south toward the Middle River Rouge.

The entire population of the City of Westland and the surrounding area receives its water from the City of Detroit Municipal Water Supply which draws its water from the Detroit River and Lake Huron.

5.3 Surface Water

No surface water samples were collected. There are no direct pathways for continuous migration from the site to the Middle River Rouge. Elevated surface topography and the Hines Drive road would prevent direct surface water migration from the site into the river.

5.4 Air

A release of potential contaminants to the air was not documented during the SSI of the Cooper School site. During the reconnaissance inspection, site-entry instruments (photo-ionization detector, explosimeter, oxygen meter, and radiation monitor) did not detect levels above background concentrations at the site (MDNR, 1988). In accordance with the U.S. EPA approved work plan, further air monitoring was not conducted.

5.5 Fire and Explosion

A potential for fire and explosion does not appear to exist at the Cooper School site. This observation is based on readings obtained with site-entry equipment during the SSIs (OVA and explosimeter), analytical data from samples collected at the site, and reconnaissance observations.

5.6 Direct Contact

According to Federal, State, and local file information, no documentation exists of an incident of direct contact with TCL compounds or TAL analytes at the Cooper School site.

A potential exists that the public may come in direct contact with TCL compounds and TAL analytes detected at the site. The potential for direct contact is based on the following information:

Access to the site is unrestricted. The school building and playground area is located directly on the old landfill itself and may have been constructed by excavation into the fill.

While the landfill is capped, refuse, discarded appliances, and construction debris protrude from the landfill on the south and west faces. Animal burrows enter the fill from the sides.

There is considerable evidence of children playing on and around the fill, with playground equipment installed on part of the landfill adjacent to the school. Several bike and footpaths cross the entire area.

TCL compounds and TAL analytes including elevated levels of pesticides have been detected in on-site soil samples.

6. BIBLIOGRAPHY

MDNR, Field Inspection Procedure Manual, 1988

MDNR, Municipal Water Withdrawal in Michigan, 1982

US Bureau of the Census, 1980 Census of Population and Housing, 1981

Zamani, Bahram, Field Notes Cooper School Screening Site Inspection

According to the Population Zone maps for the State of Michigan, the population for one square mile radius around the site is 3,171 people; for a two mile radius 39,839 people, and for a three mile radius 89,639 people. The direct contact population for the area in a three mile radius will be 89,639 people.

MDNR believes that the site should be referred to the US EPA TAT for evaluation of the mercury and DDT hotspots. Because of the site proximity to Cooper School and the high use of the area by children, removal of these hotspots, recapping the south and west landfill faces, removal of playground equipment from the landfill surface and installation of security fence should be considered.

TABLE OF CONTENTS

APPENDIX A

Appendix A

Site 3-Mile Radius Map

Appendix B

U.S. EPA Form 2070-13

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

EPA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
026	MID 981189205

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER
Cooper School	28611 Ann Arbor Trail
Westland	04 STATE: MI; 05 ZIP CODE: 48185; 06 COUNTY: Wayne; 07 COUNTY CODE: 163; 08 CONG DIST: 15

09 COORDINATES LATITUDE	LONGITUDE
42 19 05.-	-83 19 22.-

10 TYPE OF OWNERSHIP (Check one)
☐ A. PRIVATE ☐ B. FEDERAL _____ ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER _____ ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION (MONTH DAY YEAR)	02 SITE STATUS	03 YEARS OF OPERATION
3 23 89	☐ ACTIVE ☒ INACTIVE	1925 (BEGINNING YEAR) 1952 (ENDING YEAR) ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR _____ (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR _____ (Name of firm)
☒ E. STATE ☐ F. STATE CONTRACTOR _____ (Name of firm) ☐ G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Bahram Zamani	EQA IV-VI	MDNR	(517) 373-4800
09 OTHER INSPECTORS	**10 TITLE**	**11 ORGANIZATION**	**12 TELEPHONE NO.**
George Carpenter	EQA VII	MDNR	(517) 373-4800
Farsad Fohtoui	EQA IV-VI	MDNR	(517) 373-4800
Mark Cascerelli	EQA IV-VI	MDNR	317 373-4800
Seg Norgbey	EQA IV-VI	MDNR	(317) 373-4800
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Doreen Reid	Principal	28611 Ann Arbor Trail Westland, MI 48185	(313) 522-9476
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT		

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Bob Patz	Wayne County Health Dept	(313) 326-4900

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Cindy Fairbanks	MDNR	———	(517) 335-4111	/ / (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
026	981189905

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- ☐ A. SOLID
- ☐ B. POWDER, FINES
- ☐ C. SLUDGE
- ☐ E. SLURRY
- ☐ F. LIQUID
- ☐ G. GAS
- ☒ D. OTHER (Specify) unknown

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS: unknown

CUBIC YARDS:

NO. OF DRUMS:

03 WASTE CHARACTERISTICS (Check all that apply)

- ☐ A. TOXIC
- ☑ B. CORROSIVE
- ☐ C. RADIOACTIVE
- ☐ D. PERSISTENT
- ☐ E. SOLUBLE
- ☐ F. INFECTIOUS
- ☐ G. FLAMMABLE
- ☐ H. IGNITABLE
- ☐ I. HIGHLY VOLATILE
- ☐ J. EXPLOSIVE
- ☐ K. REACTIVE
- ☐ L. INCOMPATIBLE
- ☐ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS		UNKNOWN	
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
PSD	4,4 DDT			190	ug/kg
IOC	Mercury			0.13	mg/kg

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS	N/A		FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

MDNR Act 307 Site files Cooper School Site, Wayne County

SSI Cooper School, 1989

EPA FORM 2070-13(7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: 026 | 02 SITE NUMBER: 9811899905

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION

N/A Population on City of Detroit Muncipal Water Supply

01 ☐ B. SURFACE WATER CONTAMINATION
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION

N/A No direct surface water pathway to Middle River Rouge; higher intervening topography

01 ☐ C. CONTAMINATION OF AIR
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION

N/A

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION

N/A

01 ☒ E. DIRECT CONTACT
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 3171.944
04 NARRATIVE DESCRIPTION

School children from the Cooper School on site. Area residents for 1mile Square

01 ☐ F. CONTAMINATION OF SOIL
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: ~10 acres (Acres)
04 NARRATIVE DESCRIPTION

Potential harmful contaminants detected from Samples.

01 ☐ G. DRINKING WATER CONTAMINATION
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION

N/A Area on muncipal water supply. (City of Detroit)

01 ☐ H. WORKER EXPOSURE/INJURY
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION

N/A

01 ☐ I. POPULATION EXPOSURE/INJURY
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION

N/A

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: 026 | 02 SITE NUMBER: 981189905

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
N/A

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)
N/A

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
N/A

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
N/A

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
N/A

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
N/A

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
N/A

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS
N/A

III. TOTAL POPULATION POTENTIALLY AFFECTED: 89,369 (3 mile radius)

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e. g., state files, sample analysis, reports)
MDNR Act 307 Site files, Cooper School, Wayne County
SSI Cooper School Site, 1989

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
026	98118995

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☒ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☐ C. DRUMS, ABOVE GROUND		
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☐ F. LANDFILL		
☐ G. LANDFARM		
☒ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply)

- ☐ A. INCINERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☒ H. OTHER (Specify) none

05 OTHER

☒ A. BUILDINGS ON SITE

1

06 AREA OF SITE

~10 acres (Acres)

07 COMMENTS

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☒ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

None

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO

02 COMMENTS

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

MDNR Act 307 Site files, Cooper School, Wayne County

SSI Report Cooper School Site, 1989

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE: 026 | 02 SITE NUMBER: 981185995

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)	SURFACE	WELL	02 STATUS: ENDANGERED	AFFECTED	MONITORED	03 DISTANCE TO SITE
COMMUNITY	A. ☐	B. ☒	A. ☐	B. ☐	C. ☒	A. _____ (mi)
NON-COMMUNITY	C. ☐	D. ☒	D. ☐	E. ☐	F. ☒	B. ½ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A. ONLY SOURCE FOR DRINKING ☒ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER: none

03 DISTANCE TO NEAREST DRINKING WATER WELL: ~3 (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
70' (ft)	South	70' (ft)	unknown (gpd)	☒ YES ☐ NO

09 DESCRIPTION OF WELLS (Including useage, depth, and location relative to population and buildings)

N/A

10 RECHARGE AREA		11 DISCHARGE AREA	
☐ YES ☒ NO	COMMENTS	☐ YES ☐ NO	COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☒ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Middle River Rouge	☐	<1 mile (mi)
	☐	(mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 3171.944 NO. OF PERSONS	B. 39839.6 NO. OF PERSONS	C. 89639.02 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION: 0 miles

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE	04 DISTANCE TO NEAREST OFF-SITE BUILDING
unknown - residential	<¼ mile

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

Site located in city of Westland, residential, some commercial.
pop for 1 mi² = 3171.944 from population zone maps
pop for 2 mi² = 39839.6 (4π * 3171.944)
pop for 3 mi² = 89639.02 (9π * 3171.944)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE: 02 | 02 SITE NUMBER: 6981189965

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

X A. $10^{-6} - 10^{-8}$ cm/sec ☐ B. $10^{-4} - 10^{-6}$ cm/sec ☐ C. $10^{-4} - 10^{-3}$ cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

X A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☐ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☐ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
~70-100' (ft)	<1 (ft)	unknown	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
30 (in)	2.5 (in)	1-3 %	South	1-3 %

09 FLOOD POTENTIAL
SITE IS IN 100 YEAR FLOODPLAIN

10
☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)
ESTUARINE N/A OTHER
A. _____ (mi) B. _____ (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)
N/A (mi)
ENDANGERED SPECIES: _____

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AG LAND
A. _____ (mi)	B. <1 (mi)	C. _____ (mi)	D. _____ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

MDNR Act 307 Site files, Cooper School Site, Wayne County

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
026	981189905

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	0		
SURFACE WATER	0		
WASTE	0		
AIR	0		
RUNOFF	0		
SPILL	0		
SOIL	8, 1bg	S-Cubed (organics), Laucks (inorganics)	Available
VEGETATION	0		
OTHER	—		

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☐ GROUND ☐ AERIAL

02 IN CUSTODY OF _____ (Name of organization or individual)

03 MAPS ☒ YES ☐ NO

04 LOCATION OF MAPS: MDNR - Act 307 Section Lansing, MI

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analyses, reports)

MDNR Act 307 Site files, Cooper School Site, Wayne County,
SSI Cooper School Site, 1984

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION
01 STATE: 026 | 02 SITE NUMBER: 981189905

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Livonia Public Schools		15125 Farmington Rd		Livonia	MI	48154

PARENT COMPANY (if applicable)

08 NAME	09 D+B NUMBER	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
N/A						

IV. REALTY OWNER(S) (If applicable: list most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

MDNR, Act 307 Site files, Cooper School Site, Wayne County

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
026	9811899905

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
N/A	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
N/A			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
N/A			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

MDNR 807 site files, Cooper School Site, Wayne County

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
026	981189905

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ F. WASTE REPACKAGED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ H. ON SITE BURIAL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ L. ENCAPSULATION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ N. CUTOFF WALLS — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION
01 STATE: 026 | 02 SITE NUMBER: 9811899005

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ W. GAS CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

MDNR files

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
026	981189905

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☒ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

N/A

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

MONR files

Appendix C

U.S. EPA

Immediate Removal Action

Checksheet

Immediate Removal Action Check Sheet

	High	Moderate	Low
Fire and Explosion Hazard			
Flammable Materials			
Explosives			
Incompatable Chemicals			
Direct Contact with Acutely Toxic Chemicals			
Site Security		X	
Leaking Drums or Tanks			
Open Lagoons or Pits			
Materials on Surface		X	
Proximity of Population		X	
Evidence of Casual Site Use	X		
Contaminated Water Supply			
Exceeds 10 Day Snarl			
Gross Taste or Odors			
Alternate Water Available			
Potential Contamination			
Is the site abandoned, active, or inactive?	Abandoned		

Appendix D

SSI Site Photographs

(No photographs of this site are available)

Appendix E

Chemical Analysis Data

of

SSI Collected Samples

WARZYN

Warzyn Engineering Inc.
One Science Court
University Research Park
P.O. Box 5385
Madison, Wisconsin 53705
(608) 273-0440

Engineers & Scientists
Environmental Services
Waste Management
Water Resources
Site Development
Special Structures
Geotechnical Analysis

LETTER OF TRANSMITTAL

DATE	JOB NO.
April 11, 1990	30100.19

ATTENTION: George Carpenter

RE: MDNR - Cooper School

RECEIVED
APR 21 1990
ERD-SUPERFUND

TO: Michigan DNR-ERD
Knapps Centre
300 South Washington Square
Lansing Michigan 48933

WE ARE SENDING YOU [XX] Attached [ ] Under separate cover via _____ the following items:

[ ] Shop drawings [ ] Prints [ ] Plans [ ] Samples [ ] Specifications
[ ] Copy of letter [ ] Change order [XX] Report

COPIES	DATE	NO.	DESCRIPTION
1	4-11-90		Data Validation Report
			Summary of Validation Data

THESE ARE TRANSMITTED as checked below:

[XX] For approval [ ] Approved as submitted [ ] Resubmit _____ copies for approval
[XX] For your use [ ] Approved as noted [ ] Submit _____ copies for distribution
[XX] As requested [ ] Returned for corrections [ ] Return _____ corrected prints
[ ] For review and comment [ ] _____
[ ] FOR BIDS DUE _____ 19 _____ [ ] PRINTS RETURNED AFTER LOAN TO US

REMARKS: Attached is the Data Validation Report for Cooper School. I have recently taken over the management of these validation studies at Warzyn. Please give me a call if you have any questions.

I look forward to working with you.

Sheila Tauschek

COPY TO: _____

SIGNED: Sheila M. Tauschek

If enclosures are not as noted, kindly notify us at once.

DATA VALIDATION REPORT
COOPER SCHOOL
SAMPLED MARCH 23, 1989

Prepared for: Michigan Department of Natural Resources

Prepared by: Warzyn Engineering Inc.
April, 1990

This report summarizes the data validation efforts of Warzyn Engineering Inc. for soil samples collected from the Cooper School site by Michigan Department of Natural Resources (MDNR) personnel on March 23, 1989. The samples were submitted to Lauck's Testing and S-Cubed for analysis of the Contract Laboratory Program (CLP) Target Compound List (TCL) parameter list (see Attachment 1) using Routine Analytical Services (RAS) protocols. The samples reviewed as part of this data package include the following:

Soil/Sediments

Inorganic Traffic Report Number	Organic Traffic Report Number
MEDG 17	EZ 279
MEDG 18	EZ 280
MEDG 19	EZ 281
MEDG 20	EZ 282
MEDG 21	EZ 283
MEDG 22	EZ 284
MEDG 23	EZ 285
MEDG 24	EZ 286
MEDG 25	EZ 287

Data Validation was conducted under the guidelines defined in U.S. EPA publications Laboratory Data Validation, Functional Guidelines for Evaluating Organic Analyses and Laboratory Data Validation, Functional Guidelines for Evaluating Inorganic Analyses.

DATA VALIDATION SUMMARY

INORGANICS

Nine soil samples were analyzed by Lauck's Testing for the TCL inorganic parameter list. The data is acceptable with the following exceptions:

- All antimony, copper, selenium and zinc results are estimated (J,UJ) due to analytical spike recoveries outside of acceptable quality control limits.

- All lead and manganese results are estimated (J,UJ) due to unsatisfactory RPD in the duplicate and spike analysis. The lab indicated the samples were not homogeneous.

- Sodium results for MEDG 18, 20 and 25 were estimated (J) due to blank contamination.

- Cyanides were analyzed past the recommended hold times. However, the samples were distilled within the recommended hold time and no positive hits were recorded. All associated QC was within acceptable limits. No action is required.

ORGANICS

Nine soil samples were analyzed by S-Cubed for the TCL organic parameter list. The data is acceptable with the following exceptions:

- The following compounds were estimated (J,UJ) due to initial or continuing calibration standards outside acceptable quality control limits.

  Acetone
  4-Methyl-2-Pentanone
  2-Hexanone
  Benzoic acid
  Hexachlorocyclopentadiene
  2,4-Dinitrophenol
  4-Nitrophenol
  4-Nitroaniline

- Surrogate recoveries were outside acceptable quality control limits for the VOC fraction for samples EZ 284 and 285. All VOC results for these samples are estimated (J,UJ).

ST/dlk/KDF
[dlk-601-39]
30100.19

CLP TARGET COMPOUND LIST AND DETECTION LIMITS*

Volatiles	CAS Number	Detection Limits(1) Low Water(2) ug/l	Low Soil Sediment(3) ug/kg
1. Chloromethane	74-87-3	10	10
2. Bromomethane	74-83-9	10	10
3. Vinyl Chloride	75-01-4	10	10
4. Chloroethane	75-00-3	10	10
5. Methylene Chloride	75-09-2	5	5
6. Acetone	67-64-1	10	10
7. Carbon Disulfide	75-15-0	5	5
8. 1,1-Dichloroethene	75-35-4	5	5
9. 1,1-Dichloroethane	75-35-3	5	5
10. trans-1,2-Dichloroethene	156-60-5	5	5
11. Chloroform	67-66-3	5	5
12. 1,2-Dichloroethane	107-06-2	5	5
13. 2-Butanone	78-93-3	10	10
14. 1,1,1-Trichloroethane	71-55-6	5	5
15. Carbon Tetrachloride	56-23-5	5	5
16. Vinyl Acetate	108-05-4	10	10
17. Bromodichloromethane	75-27-4	5	5
18. 1,1,2,2-Tetrachloroethane	79-34-5	5	5
19. 1,2-Dichloropropane	78-87-5	5	5
20. trans-1,3-Dichloropropene	10061-02-6	5	5
21. Trichloroethene	79-01-6	5	5
22. Dibromocloromethane	124-48-1	5	5
23. 1,1,2-Trichloroethane	79-00-5	5	5
24. Benzene	71-43-2	5	5
25. cis-1,3-Dichloropropene	10061-01-5	5	5
26. 2-Chloroethyl Vinyl Ether	110-75-8	10	10
27. Bromoform	75-25-2	5	5
28. 2-Hexanone	591-78-6	10	10
29. 4-Methyl-2-pentanone	108-10-1	10	10
30. Tetrachloroethene	127-18-4	5	5
31. Toluene	108-88-3	5	5
32. Chlorobenzene	108-90-7	5	5
33. Ethyl Benzene	100-41-4	5	5
34. Styrene	100-42-5	5	5
35. Total Xylenes		5	5

Semi-Volatiles	CAS Number	Detection Limits(1) Low Water(4) ug/l	Low Soil Sediment(5) ug/kg
36. Phenol	108-95-2	10	330
37. bis(2-Chloroethyl)ether	111-44-4	10	300
38. 2-Chlorophenol	95-57-8	10	330
39. 1,3-Dichlorobenzene	541-73-1	10	330
40. 1,4-Dichlorobenzene	106-46-7	10	330
41. Benzyl Alcohol	100-51-6	10	330
42. 1,2-Dichlorobenzene	95-50-1	10	330
43. 2-Methylphenol	95-48-7	10	330
44. bis(2-Chloroisopropyl)ether	39638-32-9	10	330
45. 4-Methylphenol	106-44-5	10	330
46. N-Nitroso-Dipropylamine	621-64-7	10	330
47. Hexachloroethane	67-72-1	10	330
48. Nitrobenzene	98-95-3	10	330
49. Isophorone	78-59-1	10	330
50. 2-Nitrophenol	88-75-5	10	330
51. 2,4-Dimethylphenol	105-67-9	10	330
52. Benzoic Acid	65-85-0	50	1600
53. bis(2-Chloroethoxy)methane	111-91-1	10	330
54. 2,4-Dichlorophenol	120-83-2	10	330
55. 1,2,4-Trichlorobenzene	120-82-1	10	330
56. Naphthalene	91-20-3	10	330
57. 4-Chloroaniline	106-47-8	10	330
58. Hexachlorobutadiene	87-68-3	10	330
59. 4-Chloro-3-methylphenol (para-chloro-meta-cresol)	59-50-7	10	330
60. 2-Methylnaphthalene	91-57-6	10	330
61. Hexachlorocyclopentadiene	77-47-4	10	330
62. 2,4,6-Trichlorophenol	88-06-2	10	330
63. 2,4,5-Trichlorophenol	95-95-4	50	1600
64. 2-Chloronaphthalene	91-58-7	10	330
65. 2-Nitroaniline	88-74-4	50	1600
66. Dimethyl Phthalate	131-11-3	10	330
67. Acenaphthylene	208-96-8	10	330
68. 3-Nitroaniline	99-09-2	50	1600
69. Acenaphthene	83-32-9	10	330
70. 2,4-Dinitrophenol	51-28-5	50	1600
71. 4-Nitrophenol	100-02-7	50	1600
72. Dibenzofuran	132-64-9	10	330
73. 2,4-Dinitrotoluene	121-14-2	10	330
74. 2,6-Dinitrotoluene	606-20-2	10	330
75. Diethylphthalate	84-66-2	10	330

Semi-Volatiles	CAS Number	Detection Limits(1) Low Water(4) ug/l	Low Soil Sediment(5) ug/kg
76. 4-Chlorophenyl Phenyl ether	7005-72-3	10	330
77. Fluorene	86-73-7	10	330
78. 4-Nitroaniline	100-01-6	50	1600
79. 4,6-Dinitro-2-methylphenol	534-52-1	50	1600
80. N-nitrosodiphenylamine	86-30-6	10	330
81. 4-Bromophenyl Phenyl ether	101-55-3	10	330
82. Hexachlorobenzene	118-74-1	10	330
83. Pentachlorophenol	87-86-5	50	1600
84. Phenanthrene	85-01-8	10	330
85. Anthracene	120-12-7	10	330
86. Di-n-Butylphthalate	84-74-2	10	330
87. Fluoranthene	206-44-0	10	330
88. Pyrene	129-00-0	10	330
89. Butyl Benzyl Phthalate	85-68-7	10	330
90. 3,3'-Dichlorobenzidine	91-94-1	20	660
91. Benzo(a)anthracene	56-55-3	10	330
92. bis(2-ethylhexyl)phthalate	117-81-7	10	330
93. Chrysene	218-01-9	10	330
94. Di-n-octyl Phthalate	117-84-0	10	330
95. Benzo(b)fluoranthene	205-99-2	10	330
96. Benzo(k)fluoranthene	207-08-9	10	330
97. Benzo(a)pyrene	50-32-8	10	330
98. Indeno(1,2,3-cd)pyrene	193-39-5	10	330
99. Dibenz(a,h)anthracene	53-70-3	10	330
100. Benzo(g,h,i)perylene	191-24-2	10	330

Pesticides	CAS Number	Detection Limits(1) Low Water(6) ug/l	Low Soil Sediment(7) ug/kg
101. alpha-BHC	319-84-6	0.05	8.0
102. beta-BHC	319-85-7	0.05	8.0
103. delta-BHC	319-86-8	0.05	8.0
104. gamma-BHC (Lindane)	58-89-9	0.05	8.0
105. Heptachlor	76-44-8	0.05	8.0
106. Aldrin	309-00-2	0.05	8.0
107. Heptachlor Epoxide	1024-57-3	0.05	8.0
108. Endosulfan I	959-98-8	0.05	8.0
109. Dieldrin	60-57-1	0.10	16.0
110. 4,4'-DDE	72-55-9	0.10	16.0
111. Endrin	72-20-8	0.10	16.0
112. Endosulfan II	33213-65-9	0.10	16.0
113. 4,4-DDD	72-54-8	0.10	16.0
114. Endosulfan Sulfate	1031-07-8	0.10	16.0
115. 4,4'-DDT	50-29-3	0.10	16.0
116. Endrin Ketone	53494-70-5	0.10	16.0
117. Methoxychlor	72-43-5	0.5	80.0
118. Chlordane	57-74-9	0.5	80.0
119. Toxaphene	8001-35-2	1.0	160.0
120. AROCLOR-1016	12674-11-2	0.5	80.0
121. AROCLOR-1221	11104-28-2	0.5	80.0
122. AROCLOR-1232	11141-16-5	0.5	80.0
123. AROCLOR-1242	53469-21-9	0.5	80.0
124. AROCLOR-1248	12672-29-6	0.5	80.0
125. AROCLOR-1254	11097-69-1	1.0	160.0
126. AROCLOR-1260	11096-82-5	1.0	160.0

Notes:

(1) Detection limits listed for soil/sediment are based on wet weight. The detection limits calculated by the laboratory for soil/sediment will be on dry weight basis and will be higher.

(2) Medium Water Detection Limits (DL) for Volatile CLP Target Compounds are 100 times the individual Low Water RDL.

(3) Medium Soil/Sediment DL for Volatile CLP Target Compounds are 100 times the individual Low Water DL.

(4) Medium Water DL for Semi-Volatile CLP Target Compounds are 100 times the individual Low Water DL.

(5) Medium Soil/Sediment DL for Semi-Volatile CLP Target Compounds are 60 times the individual Low Soil/Sediment DL.

(6) Medium Water DL for Pesticide CLP Target Compounds are 100 times the individual Low Water DL.

(7) Medium Soil/Sediment DL for Pesticide CLP Target Compounds are 15 times the individual Low Soil/Sediment DL.

* Specific detection limits are highly matrix dependent. The detection limits listed herein are provided for guidance and may not always be achievable.

[cac-79-13]

ELEMENTS DETERMINED BY INDUCTIVELY COUPLED PLASMA EMISSION
OR ATOMIC ABSORPTION (AA) SPECTROSCOPY

Metal:	Required Detection Level (ug/l)
Alumium	200
Antimony	60
Arsenic	10
Barium	200
Beryllium	5
Cadmium	5
Calcium	5000
Chromium	10
Cobalt	50
Copper	25
Iron	100
Lead	5
Magnesium	5000
Manganese	15
Mercury	0.2
Nickel	40
Potassium	5000
Selenium	5
Silver	10
Sodium	5000
Thallium	10
Vanadium	50
Zinc	20
Other	
Cyanide	10

SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: | SAS NO. (IF APPLICABLE)

INORGANIC TRAFFIC REPORT

(FOR CLP USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA (SI) ESI RIFS RD RA ER NPLD O&M OTHER ____
NON-SUPERFUND—____ PROGRAM

SITE NAME: Cooper School
CITY, STATE: Westland, MI
SITE SPILL ID:

REGION NO: V
SAMPLING COMPANY ②: MDNR
SAMPLER: (NAME) B. Zamani

SHIP TO: ③
Lauks Testing Labs Inc.
940 S. Harney St.
Seattle, WA 98108
ATTN: Charlene Nix

SAMPLING DATE: ④
BEGIN: 3/23/89 END: 3/23/89

DATE SHIPPED: ____ CARRIER: ⑤
AIRBILL NO: 9979230166

SAMPLE DESCRIPTION ⑥
(ENTER IN BOX A)
1. SURFACE WATER
2. GROUND WATER
3. LEACHATE
4. SOIL
5. SEDIMENT
6. OIL (SAS)
7. WASTE (SAS)

DOUBLE VOLUME REQUIRED FOR MATRIX SPIKE/DUPLICATE AQUEOUS SAMPLE

SHIP MEDIUM AND HIGH CONCENTRATION SAMPLES IN PAINT CANS

SEE REVERSE FOR ADDITIONAL INSTRUCTIONS

CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	Ⓑ CONCENTRATION L = LOW M = MED H = HIGH (SAS)	Ⓒ RAS ANALYSIS: TOTAL METALS	CYANIDE	DISSOLVED METALS	HIGH ONLY (SAS): SULFIDE	pH	CONDUCTIVITY	OXIDANTS	Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION
MED6-17	4	L	X	X							SS-1
MED6-18	4	L	X	X							SS-2
MED6-19	4	L	X	X							SS-3
MED6-20	4	L	X	X							SS-4
MED6-21	4	L	X	X							SS-5
MED6-22	4	L	X	X							SS-6
MED6-23	4	L	X	X							SS-7
MED6-24	4	L	X	X							SS-8
MED6-25	4	L	X	X						background	SS-9

EPA Form 2075-6 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

Inorganic - RAS

CHAIN OF CUSTODY RECORD

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

PROJ. NO.	PROJECT NAME
89-INZ-20-S	11628

SAMPLERS: *(Signature)* B. Zamani

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Metals / Cyanide	REMARKS
								QTR JTR Tag #
01	3/23			X	[redacted]	1	X X	EZ-209 MEVE-19 S-044E19-22
02	3/23			X		1	X X	EZ-210 MEVE-18 S-044E18 31
03	3/23			X		1	X X	EZ-211 MEVE-19 S-044E19 35
04	3/23			X		1	X X	EZ-212 MEVE-21 S-044E21-39
05	3/23			X		1	X X	EZ-213 MEVE-21 S-044E90-43
06	3/23			X		1	X X	EZ-214 MEVE-22 S-044E44 47
07	3/23			X		1	X X	EZ-215 MEVE-22 S-044E42-95
08	3/23			X		1	X X	EZ-216 MEVE-24 S-044E96 99
09	3/23			X		1	X X	EZ-217 MEVE-25 S-044E96-99

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Bahram Zamani	3/23/89				
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Remarks	Lab - Allied Airbill - 77792301[redacted]66 Custody Seals [redacted]

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: | SAS NO. (IF APPLICABLE)

INORGANIC TRAFFIC REPORT

(FOR CLP USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA (SI) ESI RI RD RA ER
NPLD O&M OTHER
NON-SUPERFUND—_____ PROGRAM

SITE NAME: Cooper School
CITY, STATE: Westland, MI
SITE SPILL ID:

REGION NO: V
SAMPLING COMPANY: ② MDNR
SAMPLER: (NAME) B. Zamani

SHIP TO: ③
Lauks Testing Labs Inc.
940 S. Harney St.
Seattle, WA 98108
ATTN: Charlene Nix

SAMPLING DATE: ④
BEGIN: 3/23/89 END: 3/23/89

DATE SHIPPED: _____ CARRIER: ⑤
AIRBILL NO: 9979230166

SAMPLE DESCRIPTION ⑥
(ENTER IN BOX A)
1. SURFACE WATER
2. GROUND WATER
3. LEACHATE
4. SOIL
5. SEDIMENT
6. OIL (SAS)
7. WASTE (SAS)

DOUBLE VOLUME REQUIRED FOR MATRIX SPIKE/DUPLICATE AQUEOUS SAMPLE

SHIP MEDIUM AND HIGH CONCENTRATION SAMPLES IN PAINT CANS

SEE REVERSE FOR ADDITIONAL INSTRUCTIONS

CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	Ⓑ CONCENTRATION L = LOW M = MED H = HIGH (SAS)	Ⓒ RAS ANALYSIS: TOTAL METALS	CYANIDE	DISSOLVED METALS	HIGH ONLY (SAS): SULFIDE	pH	CONDUCTIVITY	CHLORIDE	Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION
MED6-17	4	L	X	X							SS-1
MED6-18	4	L	X	X							SS-2
MED6-19	4	L	X	X							SS-3
MED6-20	4	L	X	X							SS-4
MED6-21	4	L	X	X							SS-5
MED6-22	4	L	X	X							SS-6
MED6-23	4	L	X	X							SS-7
MED6-24	4	L	X	X							SS-8
MED6-25	4	L	X	X						background	SS-9

EPA Form 2075-6 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME

SAMPLERS: *(Signature)*

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS							REMARKS
													DTR TTP Tag #

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Remarks	

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5-13970

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 11628 | SAS NO: (IF APPLICABLE)

ORGANIC TRAFFIC REPORT

(FOR CLP USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA SI ESI RIFS RD RA ER
NPLD O&M OTHER _____
NON-SUPERFUND—_____PROGRAM

SITE NAME: Cooper School
CITY, STATE: Westland, MI
SITE SPILL ID:

REGION NO: V
SAMPLING COMPANY ②: MDNR
SAMPLER: (NAME) B. Zamani

SHIP TO: ③
S-Cubed
3398 Carmel Mtn. Rd
San Diego, CA 92121
ATTN: Elaine Walters

SAMPLING DATE: ④
BEGIN: 3/23/89 END: 3/23/89

DATE SHIPPED:_____ CARRIER: FX ⑤
AIRBILL NO: 5773005324

SAMPLE DESCRIPTION ⑥
(ENTER IN BOX A)
1. SURFACE WATER
2. GROUND WATER
3. LEACHATE
4. SOIL
5. SEDIMENT
6. OIL (SAS)
7. WASTE (SAS)

TRIPLE VOLUME REQUIRED FOR MATRIX SPIKE/DUPLICATE AQUEOUS SAMPLE

SHIP MEDIUM AND HIGH CONCENTRATION SAMPLES IN PAINT CANS

SEE REVERSE FOR ADDITIONAL INSTRUCTIONS

CLP SAMPLE NUMBER (FROM LABELS)	SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7 ⑥	CONCENTRATION L = LOW/MED, H = HIGH (SAS) ⑦	RAS ANALYSIS ⑧ VOLATILE	BASE/NEUT /ACID	PESTICIDE /PCB's		SPECIAL HANDLING ⑨	STATION LOCATION ⑩
EZ - 279	4	L	X	X	X			SS-1
EZ - 280	4	L	X	X	X			SS-2
EZ - 281	4	L	X	X	X			SS-3
EZ - 282	4	L	X	X	X			SS-4
EZ - 283	4	L	X	X	X			SS-5
EZ - 284	4	L	X	X	X			SS-6
EZ - 285	4	L	X	X	X			SS-7
EZ - 286	4	L	X	X	X			SS-8
EZ - 287	4	L	X	X	X		background	SS-9

EPA Form 2075-7 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

Organic ...

CHAIN OF CUSTODY RECORD

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

PROJ. NO.	PROJECT NAME
89-112-20-	11628

SAMPLERS: *(Signature)* [illegible]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	[illegible]	[illegible] Pest PCB				REMARKS CTR	ITR	Tag #
[illegible]	[illegible]			X	SS 1	3	2	X	X				EE-279	MEDE-17	5-044824-29
[illegible]	[illegible]			X	SS [illegible]	[illegible]	2	X	X				EE-280	MEDE-18	5-044828-31
[illegible]	[illegible]			X	SS 3	[illegible]	2	X	X				EE-281	MEDE-19	5-044[illegible]-35
[illegible]	[illegible]			X	SS 4	3	[illegible]	X	X				EE-282	MEDE-20	5-044836-39
[illegible]	[illegible]			X	SS [illegible]	[illegible]	2	X	X				EE-283	MEDE-21	5-044840-43
[illegible]	[illegible]			X	SS 6	[illegible]	2	X	X				EE-284	MEDE-[illegible]	5-044844-47
[illegible]	[illegible]			X	SS [illegible]	[illegible]	2	X	X				EE-285	MEDE-23	5-044[illegible]-95
[illegible]	[illegible]			X	SS 8		[illegible]	X	X				EE-286	MEDE-24	5-044[illegible]
[illegible]				X	SS 9	[illegible]		X	X				EE-287	MEDE-2[illegible]	5-044[illegible]

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
[illegible]	[illegible]				
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Remarks	
				Lab - [illegible] Airbill - 5[illegible] Custody Seal [illegible]	

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5- [illegible]965

USEPA CONTRACT LABORATORY PROGRAM

CASE NO: 11628 | **SAS NO:** (IF APPLICABLE)

ORGANIC TRAFFIC REPORT

TYPE OF ACTIVITY ① [illegible]

NPLD CERP OTHER

NON-SUPERFUND [illegible] PROGRAM

SITE NAME: [illegible]

CITY, STATE **SITE SPILL ID:** Westland [illegible]

REGION NO. **SAMPLING COMPANY** ② MDNR

SAMPLER (NAME) [illegible]

SHIP TO: ③ S-Cubed 3398 Carmel Mtn Rd San Diego, CA 92121

ATTN: Elaine Walters

SAMPLING DATE: ④

BEGIN: 3/23/89 **END:** 3/23/89

DATE SHIPPED: ______ **CARRIER:** FX ⑤

AIRBILL NO: 5773005324

SAMPLE DESCRIPTION ⑥
(ENTER IN BOX A)
1. SURFACE WATER
2. GROUND WATER
3. LEACHATE
4. SOIL
5. SEDIMENT
6. OIL (SAS)
7. WASTE (SAS)

TRIPLE VOLUME REQUIRED FOR MATRIX SPIKE/DUPLICATE AQUEOUS SAMPLE

SHIP MEDIUM AND HIGH CONCENTRATION SAMPLES IN PAINT CANS

SEE REVERSE FOR ADDITIONAL INSTRUCTIONS

SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1)	Ⓑ CONCENTRATION L=LOW M=MED H=HIGH	Ⓒ RAS ANALYSIS VOLATILE	BASE/NEUT ACID	PESTICIDE /PCBs		Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION
EZ-27[illegible]	4	L	X	X	X			SS-1
EZ-28[illegible]	4	L	X	X	X			SS-2
EZ-28[illegible]	4	L	X	X	X			SS-3
EZ-282	4	L	X	X	X			SS-4
EZ-283	4	L	X	X	X			SS-5
EZ-284	4	L	X	X	X			SS-6
EZ-285	4	L	X	X	X			SS-7
EZ-286	4	L	X	X	X			SS-8
EZ-287	4	L	X	X	X		background	SS-9

EPA Form [illegible]

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

Organic - PAS

CHAIN OF CUSTODY RECORD

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

PROJ. NO.	PROJECT NAME
89-MZ-20-S	11628

SAMPLERS: (Signature) B. Zamani

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	BNA	Ai. Pest. PCB			REMARKS OTR	ITR	Tag #
01	3/23			X	SS-1	3	2	X	X			EE-279	MED6-17	S-044824-27
02	3/23			X	SS-2	3	2	X	X			EE-280	MED6-18	S-044828-31
03	3/23			X	SS-3	3	2	X	X			EE-281	MED6-19	S-044[illegible]-35
04	3/23			X	SS-4	3	2	X	X			EE-282	MED6-20	S-044836-39
05	3/23			X	SS-5	3	2	X	X			EE-283	MED6-21	S-044840-43
06	3/23			X	SS-6	3	2	X	X			EE-284	MED6-22	S-044844-47
07	3/23			X	SS-7	3	2	X	X			EE-285	MED6-23	S-044192-95
08	3/23			X	SS-8	3	2	X	X			EE-286	MED6-24	S-044196-99
09	3/23			X	SS-9	3	2	X	X			EE-287	MED6-25	S-044876-79

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Barbara Zamani	3/23/89				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	Lab - S-Cubed Airbill - 5773005324 Custody Seals 2666-2667

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5-13965

Appendix F

Well Logs of the Area

WATER WELL AND PUMP RECORD
PART 127 ACT 368, P.A. 1978

Site Name [illegible]
ID # 98189905

1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
Wayne	Dearborn Heights	¼ ¼ ¼	6	2 N	10 E

Distance And Direction From Road Intersection
700' S.E. of Inkster & Joy Road
Carriage Park Apartments
8640 Canfield, Dearborn Heights 48127
Street Address & City of Well Location

Locate with "X" in Section Below — Sketch Map

3 OWNER OF WELL #1

Address: Carriage Hill Apartments Co.
2900 W. Maple Road
Troy, Michigan 48084

Address Same As Well Location? ☐ Yes ☒ No

4 WELL DEPTH (completed)
403 ft — Date of Completion 12/28/81

5
☐ Cable tool ☒ Rotary ☐ Driven ☐ Dug
☐ Hollow rod ☐ Auger ☐ Jetted ☐

6 USE
☐ Domestic ☐ Type I Public ☐ Type III Public
☐ Irrigation ☐ Type IIa Public ☐ Heat pump
☒ Test Well ☐ Type IIb Public ☐

7 CASING
Diameter ☒ Steel ☒ Threaded ☐ Plastic ☐ Welded
4 in. to 92 ft. depth
in. to ft. depth
Grouted Drill Hole Diameter
6 3/4 in. to 92 ft. depth
in. to ft. depth
Height Above Below Surface 1 ft.
Weight 11 lbs./ft.
Drive Shoe ☒ Yes ☐ No

2 FORMATION DESCRIPTION

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Fill sand and gravel	10'	10
Clay (gray)	40'	50
Heavy gravel with clay	2'	52
Sharp, firm medium gravel	11'	63
Medium and fine waterground	5'	68
Gray clay with some gravel	7'	75
Layered sharp gravel and watersand	15'	90
Limestone	47'	137
Sable and limestone(mixed)	58'	195
Sandstone and gray shale	125'	320
Sandstone	61'	381
Gray Shale	3'	384
Salt	19'	403
[illegible] BY DRILLER, ITEM NO.		
[illegible] BY		
[illegible] BY		
ELEVATION		
USE A [illegible] DEPTH TO ROCK		

8 SCREEN
☐ Not Installed
Type ______ Diameter ______
Slot/Gauze ______ Length ______
Set between ______ ft. and ______ ft.
FITTINGS ☐ K-Packer ☐ Lead Packer ☐ Bremer Check
☐ Blank above screen ______ ft. Other ______

9 STATIC WATER LEVEL
4 ft. below land surface ☐ Flow

10 PUMPING LEVEL below land surface
120 ft. after 4 hrs. pumping at 60 G.P.M.
______ ft. after ______ hrs. pumping at ______ G.P.M.

11 WELL HEAD COMPLETION
☐ Pitless adapter ☒ 12" above grade
☐ Basement offset ☐ Approved pit

12 WELL GROUTED?
☐ No ☒ Yes From 0 to 92 ft.
☐ Neat cement ☒ Bentonite ☐ Other
No. of bags of cement ______ Additives ______

13 Nearest source of possible contamination
Type Storm Drain Distance 50 ft. Direction east
Well disinfected upon completion? ☐ Yes ☒ No

14 PUMP
☒ Not installed ☐ Pump Installation Only
Manufacturer's name ______
Model number ______ HP ______ Volts ______
Length of Drop Pipe ______ ft. capacity ______ G.P.M.
TYPE ☐ Submersible ☐ Jet ______
PRESSURE TANK
Manufacturer's name ______
Model number ______ Capacity ______ Gallons

15 Remarks, elevation, source of data, etc.
2" opening in bedrock at 97'
oil at 114'
381' - 403' Blackwater, brinetaste
sulphur smell

16. WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

M. Sullivan Well Drilling — 63-1790
REGISTERED BUSINESS NAME — REGISTRATION NO.
Address 9375 Big Lake Road, Clarkston, Michigan
Signed [signature] AUTHORIZED REPRESENTATIVE Date 1/4/82

D67d (Rev. 10-80)

GEOLOGICAL SURVEY COPY

WATER WELL RECORD
ACT 294 PA 1965

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

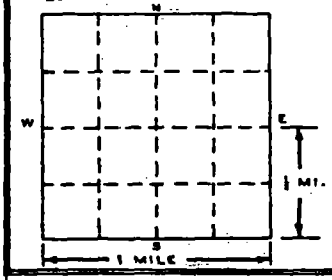
#2

1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
Wayne	Dearborn Heights	¼ ¼ ¼	6	2 N/S.	10 E/W.

Distance And Direction from Road Intersections
Carriage Park Apts. SE Corner Of Inkster and Joy Rds.
8514 Inkster
Dearborn Heights, Mich.
Bldg. #2

Locate with "X" in section below



Sketch Map:
Well # 5

3 OWNER OF WELL:
Address: Carriage Hill Apt. Co.
2900 West Maple
Troy, Mi 48084

4 WELL DEPTH: (completed) 378 ft. Date of Completion: April 2, 82

5 ☐ Cable tool ☒ Rotary ☐ Driven ☐ Dug ☐ Hollow rod ☐ Jetted ☐ Bored ☐ ____

6 USE: ☐ Domestic ☐ Public Supply ☐ Industry ☐ Irrigation ☒ Air Conditioning ☐ Commercial ☐ Test Well ☐ ____

7 CASING: Threaded ☒ Welded ☐ Diam.
6 in. to 107 ft. Depth
____ in. to ____ ft. Depth
Height: Above/Below Surface 6 ft.
Weight ____ lbs./ft.
Drive Shoe? Yes ☒ No ☐

2 FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Top Soil	1	1
Brown Clay	14	15
Gray Clay	30	45
Gray Clay & Gravel	31	76
Gray Clay & Cobbles w/Occ. Boulder	23	99
Brown Limestone	2	101
Boulders & Cobblestone	3	104
Hard Gray Shale	13	117
Greyish Black Shale	3	120
Gray Shale	9	129
BRown Shale	2	131
Soft Med Gray Shale	2	133
Lime Stone	87	220
Gray Shale	50	270
Lime Stone	45	315
Sandstone	60	375
Black Shale	3	378

ADD SHEET IF NEEDED

8 SCREEN: Rock
Type: ____ Dia.: ____
Slot/Gauze ____ Length ____
Set between ____ ft. and ____ ft.
Fittings:

9 STATIC WATER LEVEL
____ ft. below land surface

10 PUMPING LEVEL below land surface
____ ft. after ____ hrs. pumping ____ g.p.m.
____ ft. after ____ hrs. pumping ____ g.p.m.

11 WATER QUALITY in Parts Per Million:
Iron (Fe) ____ Chlorides (Cl) ____
Hardness ____ Other ____

12 WELL HEAD COMPLETION: ☐ In Approved Pit ☐ Pitless Adapter ☐ 12" Above Grade

13 Well Grouted? ☒ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☐ ____
Depth: From ____ ft. to ____ ft.

14 Nearest Source of possible contamination
____ feet ____ Direction ____ Type
Well disinfected upon completion ☐ Yes ☐ No

15 PUMP: ☐ Not installed
Manufacturer's Name ____
Model Number ____ HP ____ Volts ____
Length of Drop Pipe ____ ft. capacity ____ G.P.M.
Type: ☐ Submersible ☐ Jet ☐ Reciprocating

16 Remarks, elevation, source of data, etc.
DRY HOLE = WON'T MAKE OR TAKE WATER
ADDED INFO BY DRILLER, ITEM NO.
*CORRECTED BY
**ADDITION BY
ELEVATION
DEPTH TO ROCK

17 WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Brown Drilling Co. Inc. (REGISTERED BUSINESS NAME) 0026 (REGISTRATION NO.)
Address Howell, Mi 48042
Signed ____ (AUTHORIZED REPRESENTATIVE) Date ____

D67d 100M (Rev. 12-78)

GEOLOGICAL SURVEY COPY

WATER WELL RECORD
ACT 294 PA 1965

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

#3

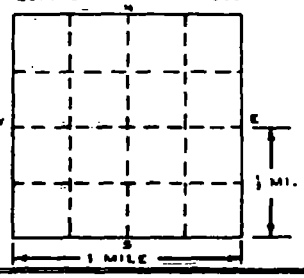
1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
Wayne	Dearborn Heights	¼ ¼ ¼	6	2 S.	10 E. W.

Distance And Direction from Road Intersections: Carriage Park Apts. SE Corner of Inkster and Joy Rd.

Street address & City of Well Location: 8514 Inkster Rd. Dearborn Heights

Locate with "X" in section below



Sketch Map: Well #7

3 OWNER OF WELL: Carriage Hill Apt. Co.

Address: 2900 West Maple, Troy, Mi 48084

4 WELL DEPTH: (completed) 81 ft. Date of Completion: May 15, 82

5 ☐ Cable tool ☒ Rotary ☐ Driven ☐ Dug ☐ Hollow rod ☐ Jetted ☐ Bored ☐ ____

6 USE: ☐ Domestic ☐ Public Supply ☐ Industry ☐ Irrigation ☒ Air Conditioning ☐ Commercial ☐ Test Well ☐ ____

7 CASING: Threaded ☒ Welded ☐ Diam. 5 in. to 69 ft. Depth; ____ in. to ____ ft. Depth

Height: Above/Below Surface ____ ft. Weight ____ lbs./ft. Drive Shoe? Yes ☒ No ☐

2 FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Top Soil	3	3
Black Clay	5	8
Gray Clay	4	12
Gray clay gravel	3	15
Gray Clay	45	50
Gray Clay & Gravel	26	76
Sand & Gravel	5	81

USE A 2ND SHEET IF NEEDED

8 SCREEN: Johnson
Type: S/S W/W Dia.: 5"
Slot/~~Cuts~~ 50 Length 5'
Set between ____ ft. and ____ ft.
Fittings:

9 STATIC WATER LEVEL
9 ft. below land surface

10 PUMPING LEVEL below land surface
____ ft. after ____ hrs. pumping ____ g.p.m.
____ ft. after ____ hrs. pumping ____ g.p.m.

11 WATER QUALITY in Parts Per Million:
Iron (Fe) ____ Chlorides (Cl) ____
Hardness ____ Other ____

12 WELL HEAD COMPLETION: ☐ In Approved Pit ☐ Pitless Adapter ☐ 12" Above Grade

13 Well Grouted? ☒ Yes ☐ No ☐ Neat Cement ☐ Bentonite ☐ ____
Depth: From ____ ft. to ____ ft.

14 Nearest Source of possible contamination
____ feet ____ Direction ____ Type
Well disinfected upon completion ☐ Yes ☐ No

15 PUMP: ☐ Not installed
Manufacturer's Name ____
Model Number ____ HP ____ Volts ____
Length of Drop Pipe ____ ft. capacity ____ G.P.M.
Type: ☐ Submersible ☐ Jet ☐ Reciprocating

16 Remarks, elevation, source of data, etc.

DRY HOLE = WORST PUMP WATER

ADDED INFO BY DRILLER, ITEM NO.
*CORRECTED BY
**ADDITION BY
ELEVATION
DEPTH TO ROCK

17 WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Brown Drilling Co. Inc. 0026
REGISTERED BUSINESS NAME — REGISTRATION NO.

Address Howell, Mi 48843

Signed Thomas R Brown Date ____
AUTHORIZED REPRESENTATIVE

D67d 100M (Rev. 12-68)

GEOLOGICAL SURVEY COPY

WATER WELL RECORD

ACT 294 PA 1965

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

#4

1 LOCATION OF WELL

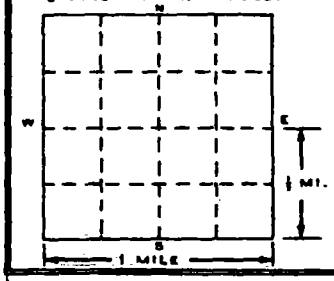
County	Township Name	Fraction	Section Number	Town Number	Range Number
Wayne	Dearborn Heights	¼ ¼ ¼	6	2 X S.	10 E/W

Distance And Direction from Road Intersections

Carriage Park Apts. 8514 Inkster Rd. Dearborn Heights — SE Corner of Inkster and Joy Rd.

Street or Nearest Intersection

Locate with "X" in section below



Sketch Map: Well #6

3 OWNER OF WELL: Carriage Hill Apt. Co.

Address: 2900 West Maple, Troy, Mi 48084

4 WELL DEPTH: (completed) 156 ft. — Date of Completion: May 4, 82

5 ☐ Cable tool ☒ Rotary ☐ Driven ☐ Dug ☐ Hollow rod ☐ Jetted ☐ Bored ☐ ____

6 USE: ☐ Domestic ☐ Public Supply ☐ Industry ☐ Irrigation ☒ Air Conditioning ☐ Commercial ☐ Test Well ☐ ____

7 CASING: Threaded ☒ Welded ☐ Diam. 5 in. to 105 ft. Depth; ____ in. to ____ ft. Depth

Height: Above / Below Surface ____ ft. Weight ____ lbs. ft. Drive Shoe? Yes ☐ No ☐

8 SCREEN: Type: Rock Dia.: ____ Slot/Gauze ____ Length ____ Set between ____ ft. and ____ ft. Fittings:

9 STATIC WATER LEVEL 9 ft. below land surface

10 PUMPING LEVEL below land surface: ____ ft. after ____ hrs. pumping ____ g.p.m.; ____ ft. after ____ hrs. pumping ____ g.p.m.

11 WATER QUALITY in Parts Per Million: Iron (Fe) ____ Chlorides (Cl) ____ Hardness ____ Other ____

12 WELL HEAD COMPLETION: ☐ In Approved Pit ☐ Pitless Adapter ☐ 12" Above Grade

13 Well Grouted? ☒ Yes ☐ No ☐ Neat Cement ☐ Bentonite ☐ ____ Depth: From ____ ft. to ____ ft.

14 Nearest Source of possible contamination: ____ feet ____ Direction ____ Type

Well disinfected upon completion ☐ Yes ☐ No

15 PUMP: ☐ Not installed

Manufacturer's Name ____ Model Number ____ HP ____ Volts ____ Length of Drop Pipe ____ ft. capacity ____ G.P.M.

Type: ☐ Submersible ☐ Jet ☐ Reciprocating

2 FORMATION

FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Brown Clay	10	10
Gray Clay	36	46
Gray Clay & Fine Gravel	2	48
Gray Clay	9½	57½
Fine Gravel & Stone	2½	60
Gray Clay	15	75
Black & Brown Limestone Oily	5	80
White & Brown Limestone	15	95
Brown Limestone	2	97
Gray Limestone	8	105
Gray Limestone w/Shale Lenses	5	110
Gray Shale and Gray Limestone	6	116
Gray Brown Limestone	40	156

USE A 2ND SHEET IF NEEDED

16 Remarks, elevation, source of data, etc.

DRY HOLE — WON'T PUMP WATER

ADDED INFO BY DRILLER, H&M RG.

*CORRECTED BY

**ADDITION BY

ELEVATION

DEPTH TO ROCK

17 WATER WELL CONTRACTOR'S CERTIFICATION:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Brown Drilling Co. Inc. (REGISTERED BUSINESS NAME) 0026 (REGISTRATION NO.)

Address: Howell, Mi 48843

Signed: Henry L Brown (AUTHORIZED REPRESENTATIVE) Date ____

D67d 100M (Rev. 12-68)

GEOLOGICAL SURVEY COPY

AUG 16 2

WATER WELL RECORD
ACT 294 PA 1965

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

#5

1 LOCATION OF WELL

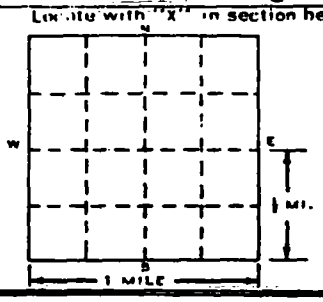
County	Township Name	Fraction	Section Number	Town Number	Range Number
Wayne	Dearborn Heights	¼ ¼ ¼	6	2 S.	10 E.

Distance And Direction from Road Intersections

Carriage Park Apts. 8514 Inkster Rd. Dearborn Heights — Se Corner of Inkster and Joy Rd.

Street Location

Locate with "X" in section below



Sketch MAP:

Well #8

3 OWNER OF WELL:

Address: Carriage Hill Apt. Co.
2900 West Maple
Troy, Mi 48084

4 WELL DEPTH: (completed) Date of Completion

159 ft. May 27, 82

5

☐ Cable tool ☒ Rotary ☐ Driven ☐ Dug
☐ Hollow rod ☐ Jetted ☐ Bored ☐ ____

6 USE:

☐ Domestic ☐ Public Supply ☐ Industry
☐ Irrigation ☒ Air Conditioning ☐ Commercial
☐ Test Well ☐ ____

7 CASING:

Threaded ☒ Welded ☐ Diam.

5 in. to 99 ft. Depth
___ in. to ___ ft. Depth

Height: Above/Below Surface ___ ft.
Weight ___ lbs./ft.
Drive Shoe? Yes ☒ No ☐

2 FORMATION

FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Black Top soil	2	2
Brown Clay	7	9
Gray Clay	61	70
Gray Clay and Bolders	27	97
Limestone Brown	23	120
Gray Shale	6	126
Brown Limestone	14	140
Blue Shale	19	159

ADDED INFO BY DRILLER, ITEM NO.
CORRECTED BY
ADDITION BY
ELEVATION
DEPTH TO ROCK
USE A 2ND SHEET IF NEEDED

8 SCREEN:

Rock Well

Type: ___ Dia.: ___
Slot/Gauze ___ Length ___
Set between ___ ft. and ___ ft.
Fittings:

9 STATIC WATER LEVEL

9 ft. below land surface

10 PUMPING LEVEL below land surface

20 ft. after ½ hrs. pumping 10 g.p.m. w/Air
159 ft. after 1½ hrs. pumping 75 g.p.m. w/Air

11 WATER QUALITY in Parts Per Million:

Iron (Fe) ___ Chlorides (Cl) ___
Hardness ___ Other ___

12 WELL HEAD COMPLETION:

☐ In Approved Pit
☐ Pitless Adapter ☐ 12" Above Grade

13 Well Grouted?

☐ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☐ ____
Depth: From ___ ft. to ___ ft.

14 Nearest Source of possible contamination

___ feet ___ Direction ___ Type
Well disinfected upon completion ☐ Yes ☐ No

15 PUMP:

☐ Not installed
Manufacturer's Name ___
Model Number ___ HP ___ Volts ___
Length of Drop Pipe ___ ft. capacity ___ G.P.M.
Type: ☐ Submersible
☐ Jet ☐ Reciprocating

16 Remarks, elevation, source of data, etc.

This Well pumps plenty good

17 WATER WELL CONTRACTOR'S CERTIFICATION:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Brown Drilling Co. Inc. 0026
REGISTERED BUSINESS NAME REGISTRATION NO.

Address Howell, Mi 48843

Signed [signature] AUTHORIZED REPRESENTATIVE Date ___

D67d 100M (Rev. 12-68)

GEOLOGICAL SURVEY COPY

3 DEC 16 1981 WATER WELL AND PUMP RECORD DEC 3 '81

PART 127 ACT 368, P.A. 1978

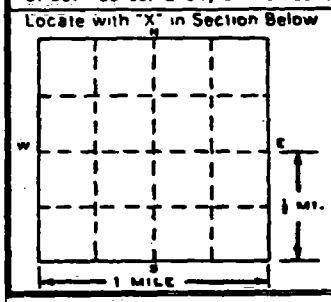
PERMIT NUMBER

1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
Wayne	Dearborn Heights	¼ ¼ ¼	6	2 N(S)	10 E/W

Distance And Direction From Road Intersection
400 Ft. S. E. of Inkster & Joy Roads
Carriage Park Apartments
8640 Canfield, Dearborn Heights, MI
Street Address & City of Well Location

Locate with "X" in Section Below — Sketch Map



3 OWNER OF WELL (#6)
Carriage Park Apartments
Address 2900 W. Maple Road
Troy, MI 48084
Address Same As Well Location? ☐ Yes ☒ No

4 WELL DEPTH (completed) 92 ft — Date of Completion 11/21/81

5 ☒ Cable tool ☐ Rotary ☐ Driven ☐ Dug ☐ Hollow rod ☐ Auger ☐ Jetted ☐ _____

6 USE ☐ Domestic ☐ Type I Public ☐ Type III Public ☐ Irrigation ☐ Type IIa Public ☐ Heat pump ☒ Test Well ☐ Type IIb Public ☐ _____

7 CASING Diameter ☐ Steel ☐ Threaded ☐ Plastic ☐ Welded
4 in. to 63 ft. depth
_____ in. to _____ ft. depth
Grouted Drill Hole Diameter
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height Above/Below Surface 1 ft
Weight 11 lbs /ft
Drive Shoe ☒ Yes ☐ No

8 SCREEN ☐ Not Installed
Type Johnson Stainless Diameter 4"
Slot/Gauze 25-25-25-35-35 Length 31'
Set between 65 ft and 92 ft.
FITTINGS ☒ K-Packer ☐ Lead Packer ☐ Bremer Check
☒ Blank above screen 2 ft. Other 68'-75' Blank

9 STATIC WATER LEVEL
9 ft. below land surface ☐ Flow

10 PUMPING LEVEL below land surface
60 ft. after 8 hrs pumping at 10 G.P.M.
60 ft. after 10 hrs pumping at 15 G.P.M.

11 WELL HEAD COMPLETION ☐ Pitless adapter ☒ 12" above grade ☐ Basement offset ☐ Approved pit

12 WELL GROUTED? ☒ No ☐ Yes From _____ to _____ ft
☐ Neat cement ☐ Bentonite ☐ Other _____
No. of bags of cement _____ Additives _____

13 Nearest source of possible contamination
Type Storm Drain Distance 75 ft Direction S.W.S.
Well disinfected upon completion? ☒ Yes ☐ No

14 PUMP ☒ Not Installed ☐ Pump Installation Only
Manufacturer's name _____
Model number _____ HP _____ Volts _____
Length of Drop Pipe _____ ft capacity _____ G P M
TYPE ☐ Submersible ☐ Jet _____
PRESSURE TANK
Manufacturer's name _____
Model number _____ Capacity _____ Gallons

2 FORMATION DESCRIPTION

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Fill Sand Gravel	10'	10'
Clay (grey)	40'	50'
Heavy Gravel w/Clay	2'	52'
Sharp Medium Gravel	11'	63'
Medium & Fine Water Gravel	5'	68'
Clay w/Some Gravel	7'	75'
Streaks Sharp Gravel, Water Sand	17'	92'
Black Shale, Sandstone, Med. Gravel		
(Balder at 80' & 91')		
(Gas Encountered about 53' to about 80')		

USE A 2ND SHEET IF NEEDED

15. Remarks, elevation, source of data, etc
Screen positions - 2' blank, 5' 25 slot, 7' blank, 2'-4' 25 slot, 2'-5' 35 slot (pump cavitates at 15 gpm.)

ADDED INFO. BY DRILLER, ITEM NO.

16. WATER WELL CONTRACTOR'S CERTIFICATION
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

M. Sullivan Well Drilling — 63-1790
REGISTERED BUSINESS NAME — REGISTRATION NO.
Address 9375 Big Lake Road, Clarkston, MI 48016
Signed _____ (AUTHORIZED REPRESENTATIVE) Date 11/25/81

D67d (Rev. 10-80)

CORRECTED BY _____

ADDITION BY _____

GEOLOGICAL SURVEY COPY